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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/625,843 | 07/26/2000 | Hiroki Hiyama | 35.C14640 | 7974 |

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EXAMINER

GENCO, BRIAN C

ART UNIT PAPER NUMBER

2615

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/625,843

Applicant(s)

HIYAMA ET AL.

Examiner

Brian C Genco

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Examination of this application is now being conducted by Brian Genco.

Applicant's amendment filed July 26, 2004 has been fully considered by the Examiner but is not deemed persuasive.

Applicant argues that since Kozuka discloses to utilize the transfer switch once for transferring a signal and once for transferring noise then Kozuka does not disclose to transfer the signal generated by the photoelectric conversion unit via the transfer switch.

Examiner notes that while the noise signal is not generated due to the photoelectric conversion unit converting incident illumination it is nevertheless generated by the photoelectric conversion unit. As such, as broadly as claimed, the Kozuka reference is still deemed to read on the claim limitations.

Examiner's Notes

The official notice presented in the previous action stating that it is well known to use CMOS processes to fabricate MOS transistors. was not traversed and is accordingly taken as an admission of fact.

The official notice presented in the previous action stating that it is well known that cameras containing image sensors clearly comprise a circuit for processing a signal from its pixels and a lens for focusing light onto its photoelectric conversion unit was not traversed and is accordingly taken as an admission of fact.

Drawings

Applicant's proposed drawing corrections filed July 26, 2004 have been approved by the Examiner.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-4 and 8-11 are rejected under 35 U.S.C. 102(e) as being anticipated by (USPN 6,538,693 to Kozuka).

In regards to claim 1, Kozuka discloses an image pickup device comprising:
pixels each including a photoelectric conversion unit (Figure 1A) and a transfer switch (Figure 1A, Element 4) for transferring photoelectric conversion signal generated by the photoelectric conversion unit;

and driving means for applying a plurality of pulses (Figure 1A, 1B, Phi T1) to the transfer switch (Figure 1A, Element 4) to transfer the signal generated by the photoelectric conversion unit via the transfer switch (Figure 1B; Phi T1 is pulsed twice during the accumulation period.).

In regards to claim 2, Kozuka discloses all the previous limitations of claim 1, and also wherein said pixel includes amplifying means (Figure 1A, Element 3; The transistor is an amplifier. It then outputs the photoelectric conversion signal to the transfer switch.) for amplifying and outputting the photoelectric conversion signal transferred via the transfer switch (Figure 1A).

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For claim 3, Kozuka discloses all the previous limitations of claims 1 and 2, and also wherein said driving means has an operation mode for resetting an input portion of said amplifying means (Figure 1A, Element Reset Unit resets the amplifying transistor (3)) and outputting a reset signal generated upon resetting from said amplifying means (the amplifying transistor outputs the signal to the switching transistor; Column 4, Lines 61-64) and an operation mode for outputting the photoelectric conversion signal from said amplifying means (the photoelectric conversion unit outputs the signal to the switching transistor), and wherein said image pickup device further comprises subtracting means for subtracting the reset signal from the photoelectric conversion signal (Column 7, Lines 39-45).

For claim 4, Kozuka discloses all the previous limitations of claims 1, 2, and 3, and also wherein the photoelectric conversion signal and the reset signal include correlated signals (Column 8, Lines 19-25; The signals are correlated because they are from the same sensor reset signal.).

Claims 8 through 11 are method claims for the apparatus of claims 1 through 4. They have been analyzed and are rejected under the same grounds as claims 1 through 4.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 5-7 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over (USPN 6,538,693 to Kozuka).

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In regards to claim 5, Kozuka discloses all the previous limitations of claim 1, and also further comprising a circuit for controlling a read operation of a signal from said pixel (Inherently, there is a control circuit that controls the timing shown in Figure 1B.) or processing the signal from said pixel, wherein the transfer switch (Figure 1A, Element 4) includes a MOS transistor (Column 4, Line 62).

Kozuka does not disclose teaching wherein said pixel and said circuit are formed by CMOS processes. However, official notice is given that it is well known to use CMOS processes to fabricate MOS transistors. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention construct the MOS device of Kozuka using a CMOS process in order to make use of well-established fabrication procedures.

In regards to claim 6 see Examiners notes on the rejection of claim 5.

In regards to claim 7, Kozuka discloses all the previous limitations of claim 1, but lacks specific teaching of teaching a circuit for processing a signal from its pixels and a lens for focusing light onto said photoelectric conversion unit. However, cameras (as used with the Kozuka device in Column 1, Line 20) containing image sensors clearly comprise a circuit for processing a signal from its pixels and a lens for focusing light onto its photoelectric conversion unit are well known in the art. Official Notice is hereby given.

Claims 12 through 13 are method claims for the apparatus of claims 5 and 6. They have been analyzed and are rejected under the same grounds as claims 5 and 6.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian C. Genco who can be reached by phone at 703-305-7881 or by fax at 703-746-8325. The examiner can normally be reached on Monday thru Friday 8:30am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Christensen can be reached on 703-308-9644. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service office whose telephone number is 703-308-4357.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brian C Genco
Examiner
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November 17, 2004

A handwritten signature in black ink, appearing to read 'Andrew Christensen', with a long horizontal flourish extending to the right.

ANDREW CHRISTENSEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600